



SITE SELECTION MEMORANDUM: HALE'IWA MOBILITY HUB

The purpose of this memo is to provide an analysis of potential mobility hub sites for Hale'iwa as part of the site selection process. This memo will outline initial criteria and sites and provide a recommendation for three sites to be taken forward to the next phase of the project. It should be noted the results of this initial analysis are not reflective of the overall site priority for development.

Site Selection Criteria

The following list represents the criteria used to analyze potential sites for a mobility hub in Hale'iwa. Sites will be scored based on these criteria, with the three highest scoring sites chosen for full site analysis.

- Site Size
 - Sites were included that could be large enough to host a mobility hub for the North Shore as envisioned in the City and County of Honolulu (CCH) Department of Transportation's (DTS) North Shore Sustainable Transportation Plan (NSSTP). This estimated a desire for an 8- to 10-acre site including space for 400 parking stalls. However, due to the limited potential options, privately owned sites larger than 7 acres and government owned sites larger than 2 acres were considered. The smaller site size for government owned sites was chosen to provide an option for a mobility hub that would likely not include the noted parking stalls. Government owned lots over 8 acres in the study area include beach parks that are encumbered by the 3.2ft Sea Level Rise Exposure Area and are not recommended for a mobility hub site.
- Proximity to destinations and population served
 - Two buffers of a quarter-mile and a half-mile were generated from the CCH owned portion of Kamehameha Highway between Paukauila Stream in the south and the Anahulu River in the north. This was used to align with the CCH Department of Design and Construction (DDC) planned complete streets project that proposes to implement a mostly protected shoulder walkway along its extents. These buffers identify two walksheds. Sites outside of these buffers were not considered for the mobility hub.
- Parcel ownership
 - Site selection includes both private and public parcels. Private parcels were limited to private owners who have historically expressed willingness to work with the State and CCH government.
- Vehicular Site Access
 - Sites were evaluated for existing access points such as roads and driveways, as well as the potential for the development of new vehicular access points as necessary.
- Transit access and connectivity
 - Sites were evaluated for existing access points such as roads and driveways, as well as existing transit corridors. Sites were also evaluated for the potential for the development of new vehicular and transit access points as necessary.

- Pedestrian access and connectivity
 - Sites were evaluated for pedestrian access and connectivity by the presence of contiguous sidewalks, safe crossing locations, and/or the potential for the development of future pedestrian infrastructure.
- Bicycle access and connectivity
 - Bicycle access was evaluated on the presence of existing bicycle facilities and the potential for the development of future bicycle facilities as discussed in the O'ahu Bike Plan.
- Supporting Infrastructure
 - A high level review of sites was completed that assessed the ability to provide utilities such as electrical power and water for restrooms. The biggest concern is provision of enough electrical power for the provision of overhead chargers. Sites were reviewed using the Hawaiian Electric Company (HECO) O'ahu Electric Vehicle (EV) Charger Siting Tool. The tool identifies areas by the available electrical system capacity at three levels (less than 500kW, 500kW – 1MW, and greater than 1MW). Layout requirements for electrical charging and requests for electrification will be explored in the next phase of this project.
- Hazard and climate change risks
 - Each site was evaluated for the current flood zone and whether the site will be inundated by 3.2ft SLR-XA (Sea Level Rise Exposure Area) or 6ft of Sea Level Rise (SLR)¹.
- Land use restrictions
 - Land use restrictions included whether the site is located within the Special Management Area (SMA), whether the site is located in the Hale'iwa Special District (HSD), and whether the site is located within the Community Growth Boundary for the North Shore. Sites were also analyzed for plan alignment including proposed elements of the North Shore Sustainable Communities Plan (NSSCP) and how the site would interact with the surrounding land uses and roads.
- Cost-related considerations
 - For this level of site selection, high level cost items were considered such as the potential to develop or redevelop the site, addition of new access points etc. Costs were considered and scored on a scale of 1-to-5 (\$ - \$\$\$\$\$) to coincide with the level of site redevelopment required, where an undeveloped an undulating site would be \$\$\$\$\$ and an existing parking lot would be \$. Costs were also considered for the required level of roadway improvement where the development of a new driveway access point and associated improvements where intersecting with a highway would be \$\$\$\$\$ and an existing driveway needing minor improvements would be \$. The combined score out of ten will be reported. A more in depth cost consideration will be explored in the next phase of this project that looks into utility availability.

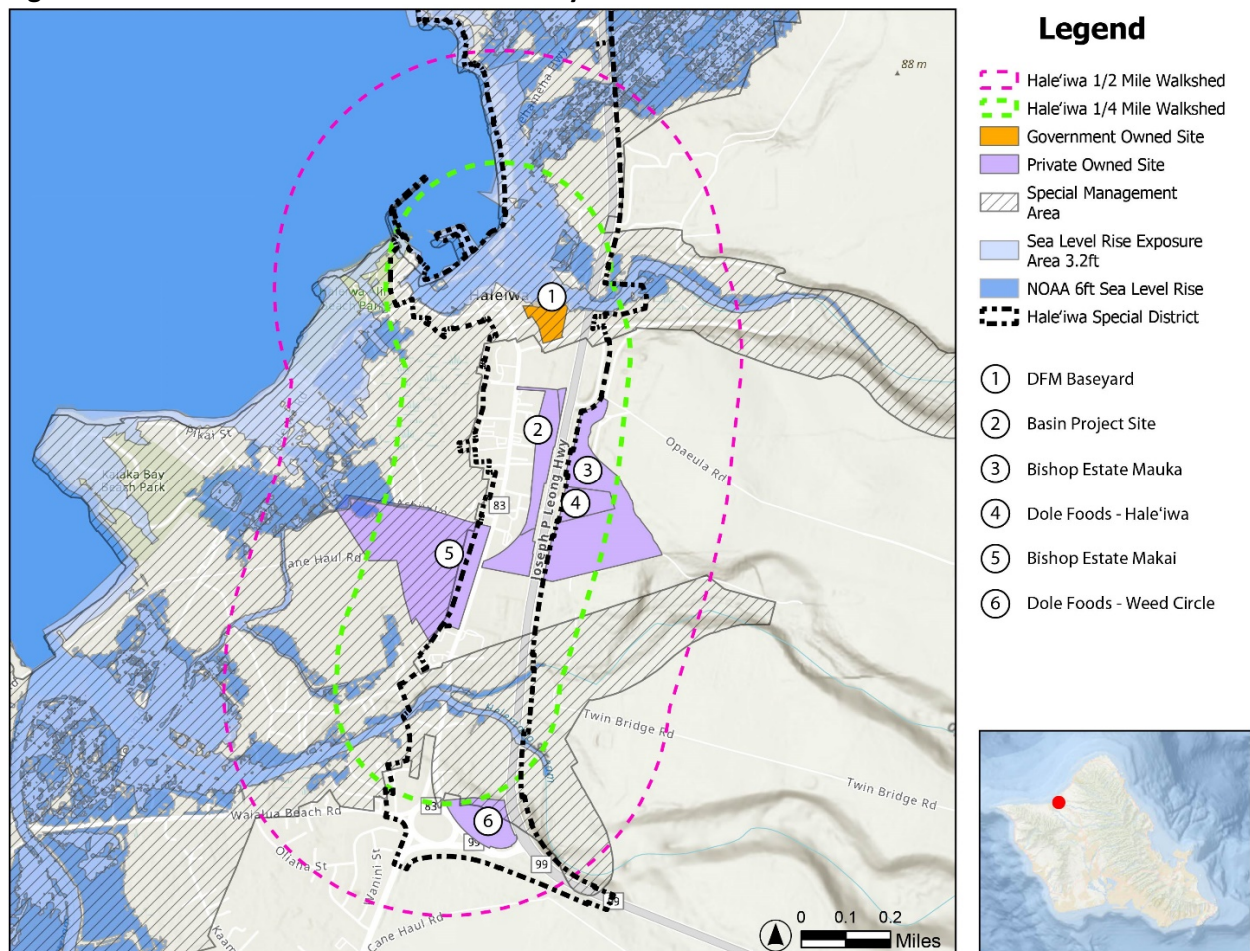
¹ Guidance by the Honolulu Climate Commission states that all public facilities should consider the 3.2ft Sea Level Rise Exposure Area as a planning benchmark. If the structure is considered critical infrastructure with a long expected lifespan and low risk tolerance then 6ft of sea level rise should be used as the planning benchmark.

Site Descriptions

Based on the previously noted criteria, the following six sites were chosen for further evaluation. This section will provide an overview of the sites being evaluated as potential locations for a mobility hub in Hale'iwa. Figure 1 shows the location of each site.

- 1) DFM Baseyard
- 2) Basin Project Site
- 3) Bishop Estate Mauka
- 4) Dole Foods - Hale'iwa
- 5) Bishop Estate Makai
- 6) Dole Foods - Weed Circle

Figure 1: Sites considered for Hale'iwa Mobility Hub





Site Evaluation

This section evaluates each site based on the previously noted criteria.

1) DFM Baseyard

The DFM Baseyard Site is a 4.1-acre parcel located along Emerson Road and is within the quarter-mile walkshed buffer. The site is owned by the CCH Department of Facilities Maintenance (DFM) and is used as a base yard for storage and equipment for DFM to conduct maintenance across the North Shore. The site includes fuel storage tanks, a single-story wash facility and a dewatering plant and detention pond. For vehicular and transit access, the site has two entrance points, one on Emerson Road and one on the paved stub road that runs north between Emerson Road and the Anahulu River. This stub is part of the DFM parcel. Transit access is not directly provided to the site, although five routes run along Kamehameha Highway (Routes 52, 60, 76, 83, and 88A). There are no sidewalks or bicycle infrastructure along Emerson Road for pedestrian or bicycle access. The road sees a low volume of vehicular traffic which would make connecting to Kamehameha Highway possible. Kamehameha Highway itself has proposed protected pedestrian walkways and is proposed as a bicycle route in the O'ahu Bike Plan. This site has an available electrical circuit capacity of less than 500kW. The northern portion of the site is partially encumbered by the 3.2ft SLR-XA and 6ft of SLR and is also in the AE flood zone (1% annual chance flood). However, the majority of the site is outside of the 3.2ft SLR-XA and 6ft of Sea Level Rise zone and the majority of the site is in Flood Zone X (area of minimal flood hazard). The site is within the SMA and the HSD and the Community Growth Boundary (CGB) for the North Shore. The lot is located in Residential R-5 zoning. This fits with the NSSCP goals of preserving agricultural land and open space. The site is within Hale'iwa Town which fits the NSSCP goals for locating residential and commercial development.

This site could be reconfigured to accommodate the functions of a mobility hub. The current site is flat and partially paved which is a benefit to access for vehicles. However, the site has existing buildings and fuel storage tanks that would have to be removed or relocated to better serve a mobility hub use. Additionally, DFM may not be willing to give up the site due to its own needs. The site size is smaller than discussed in the NSSTP although 4 acres is large enough to provide core mobility hub functions. The portion of the site that is encumbered by future SLR would have to be kept landscaped, maintaining a buffer between the transit use and potential future flooding. The site's location on Emerson Road may pose a problem as Emerson Road is a residential street that may not be best suited to heavy transit traffic. Additionally, there is no immediate access to the Bypass Road, limiting transit travel to Kamehameha Avenue. A transit only access point to the Bypass Road may be a beneficial addition if this site is selected, however, the adjoining portion of Emerson Road would likely need to be improved. Currently, the portion of Emerson Road that meets the Bypass Road is not owned by the CCH and therefore an easement or land acquisition would be required to gain access to the Bypass, along with approval from Hawai'i Department of Transportation (HDOT).

From a cost perspective, this site is already partially paved and graded which would be a relatively low cost to redevelop, however, remediating additional heavy uses would make increase costs to relatively high (\$\$\$\$). The existing driveways would need to be redeveloped to accommodate transit access (\$). In this scenario, the DFM site scores a 5/10. If a highway access point was desired, then the score would be



9/10 due to the cost associated with the purchase and improvement of Emerson Road and the development of the highway access point to the Bypass Road.

2) Basin Project Site

The Basin Project Site is a 7.5-acre site located between the Bypass Road and development along Kamehameha Highway. The site is within the quarter-mile walkshed buffer. The site is owned by Basin Project LLC., owned by Andy Anderson. For vehicular and transit use, the site can be accessed via an existing cane haul road and Ōpae'ula Rd, a flag access point to Kamehameha Highway owned by Basin Project LLC. Transit access is not directly provided to the site, although five routes run along Kamehameha Highway (Routes 52, 60, 76, 83, and 88A). There are no pedestrian or bicycle connections directly to the lot, however, Kamehameha Highway itself has proposed protected pedestrian shoulder walkways and is proposed as a bicycle route in the O'ahu Bike Plan and the bypass road is an existing bike route. This site has an available electrical circuit capacity of less than 500kW. The site is not impacted by the 3.2ft SLR-XA or 6ft of SLR and is located in Flood Zone X (area of minimal flood hazard). The site is not within the SMA and is located in the HSD and within the CGB. The lot is located in AG-1 Restricted Agriculture zoning. The site is within Hale'iwa which fits the NSSCP goals of locating development within Hale'iwa Town and is adjacent to existing development.

The site is not paved or graded and would therefore need to be developed. This provides a benefit, in that no existing infrastructure needs to be relocated to configure a mobility hub, and a drawback in that more site prep work is required to develop the site. The site could be easily configured for a mobility hub with ingress and egress via the existing connection to Kamehameha Highway at the south end of the site and development of a connection via Ōpae'ula Road at the north end of the site. Additionally, the site could seek the development of a transit only access point to the Bypass Road pending approval from HDOT. The site is zoned for agriculture which may be a concern as policies in the NSSCP aim to limit the conversion of agricultural land, however, the parcel location and shape likely make it difficult to be a productive agricultural lot. The site's location makai of the Bypass Road is a benefit as it would keep development close to existing development in Hale'iwa Town, reducing sprawl.

From a cost perspective, this site is undeveloped and undulating terrain, making it high cost to redevelop (\$\$\$\$\$). The ideal scenario for this site would be the development of a highway access point which would also be a high cost (\$\$\$\$\$). Redevelopment of the existing access points would reduce costs (\$\$\$). This site scores a 10/10 for costs, or an 8/10 if no highway access point is constructed.

3) Bishop Estate Mauka

The Bishop Estate Mauka parcel is a 29.7-acre site that is predominantly located mauka of the Bypass Road, with two minor parcel segments makai of the Bypass Road, adjacent to the Basin Project Site. The site is within the half-mile walkshed buffer, with a large portion within the quarter-mile walkshed buffer. The site is owned by Bishop Estate. Access to the site is provided via a cane haul road that goes under the Bypass Road. Transit access is not directly provided to the site and Route 52 is the only North Shore route that travels along Bypass Road. Five transit routes run along Kamehameha Highway (Routes 52, 60, 76, 83, and 88A). There is no pedestrian or bicycle infrastructure providing access to the site at this time, however, Kamehameha Highway itself has proposed protected pedestrian shoulder walkways and



is proposed as a bicycle route in the O'ahu Bike Plan and the Bypass Road is an existing bike route. This site has an available electrical circuit capacity of less than 500kW. The site is not impacted by the 3.2ft SLR-XA or 6ft of SLR and the site is located in flood zone X (area of minimal flood hazard). The site is not located within the SMA. The majority of site is not located in the HSD, however, the two segments of the site makai of the Bypass Road are located within the HSD. The segments mauka of the Bypass Road are located outside of the CGB for the North Shore. The site is located in AG-1 Restricted Agriculture zoning.

The site is not paved or graded and would therefore need to be developed. This provides a benefit, in that no existing infrastructure needs to be relocated to configure a mobility hub, and a drawback in that more site prep work is required to develop the site. The site is large enough that a section of the site could be developed for a mobility hub, leaving the remainder of the site in agriculture. There are two potential locations for a mobility hub: 1) The 4-acre parcel makai of the Bypass Road, and 2) developing a larger parcel on the mauka side of the Bypass Road. Developing in the makai side of the Bypass Road would be a smaller site that may not meet all criteria required for a North Shore Mobility Hub as outlined in the NSSTP. However, the site is within the HSD and CGB and has direct access to Kamehameha Highway, as well as the potential for development of an access to Bypass Road, pending approval from HDOT. Developing on the mauka side could be an issue as this segment is not within the HSD and would likely face opposition due to concerns about sprawl as well as concerns about developing existing agricultural land. The parcel is outside of the CGB and therefore development would be opposed by the North Shore community, particularly the North Shore Neighborhood Board who would be a major stakeholder in the development of any mobility hub. Pedestrian and bicycle access to Hale'iwa Town from the mauka parcel would be via the tunnel under the Bypass Road which may be considered a barrier to some users unless a lighted, safe path was provided all the way to Kamehameha Highway.

From a cost perspective, this site is undeveloped with flat terrain, making it moderately high cost to redevelop (\$\$\$). The ideal scenario for this site would be the development of a highway access point which would be a high cost item (\$\$\$\$\$). Redevelopment of the existing access points would reduce costs (\$\$\$). This site scores a 8/10 for costs, or a 6/10 if no highway access point is constructed.

4) Dole Foods – Hale'iwa

The Dole Foods - Hale'iwa site is a 4.2-acre site located mauka of the Bypass Road. The site is within the quarter-mile watershed buffer. The site is owned by Dole Foods. Access to the site is provided via a cane haul road that goes under the Bypass Road. Transit access is not directly provided to the site and Route 52 is the only North Shore route that travels along Bypass Road. Five transit routes run along Kamehameha Highway (Routes 52, 60, 76, 83, and 88A). There is no pedestrian or bicycle infrastructure providing access to the site at this time, however, Kamehameha Highway itself has proposed protected pedestrian shoulder walkways and is proposed as a bicycle route in the O'ahu Bike Plan and the Bypass Road is an existing bike route. This site has an available electrical circuit capacity of less than 500kW. The site is not impacted by the 3.2ft SLR-XA or 6ft of SLR and the site is located in flood zone X (area of minimal flood hazard). The site is not located within the SMA. The site is located outside of the HSD and outside of the CGB for the North Shore. The site is located in AG-1 Restricted Agriculture zoning.



The site is not paved or graded and would therefore need to be developed. This provides a benefit, in that no existing infrastructure needs to be relocated to configure a mobility hub, and a drawback in that more site prep work is required to develop the site. A new connection to the Bypass Road would likely be required for vehicular access, pending approval from HDOT. Pedestrian and bicycle access to Hale'iwa Town would be via the tunnel under the Bypass Road which may be considered a barrier to some users due to safety concerns. Developing on the mauka side of the highway would likely face opposition due to concerns about sprawl and concerns about developing existing agricultural lands. Development outside of the CGB would be opposed by the North Shore community, particularly the North Shore Neighborhood Board who would be a major stakeholder in the development of any mobility hub.

From a cost perspective, this site is undeveloped with flat terrain, making it moderately high cost to redevelop (\$\$\$). The ideal scenario for this site would be the development of a highway access point which would be a high cost item (\$\$\$\$\$). Redevelopment of the existing access points would reduce costs (\$\$\$). This site scores an 8/10 for costs, or a 6/10 if no highway access point is constructed.

5) Bishop Estate Makai

The Bishop Estate Makai site is a 43.4-acre site located along an undeveloped portion of Kamehameha Highway. The large site is located mostly within the quarter-mile walkshed, with a portion in the half-mile walkshed. The site is owned by Bishop Estate. Access to the site is provided via a cane haul road and Achiu Lane. Five transit routes run along Kamehameha Highway (Routes 52, 60, 76, 83, and 88A). There is no pedestrian or bicycle infrastructure along the Cane Haul Road or Achiu Lane, however, Kamehameha Highway itself has proposed protected pedestrian shoulder walkways and is proposed as a bicycle route in the O'ahu Bike Plan. This site has an available electrical circuit capacity of less than 500kW. The northwest corner of the site is impacted by the 3.2ft SLR-XA and 6ft of SLR, however the majority of the site is not impacted. The northwest corner is located in flood zone AE (1% chance flood), however, the majority of the site is located in flood zone X (Area of minimal flood hazard). The majority of the site is located within the SMA and is located the CGB. The site is not located in the HSD. The site is located in AG-1 Restricted Agriculture zoning.

For the purpose of developing a mobility hub, only a portion of this site would likely be required. The development of a site would be preferred in the portion of the site adjacent to Kamehameha Highway, either between Achiu Lane and the Cane Haul Road or between the Farm to Barn restaurant site and the southern development in Hale'iwa. This could keep the majority of the site in agriculture while providing a mobility hub service. The majority of the site is not paved or graded and would therefore need to be developed. There is an existing developed portion of the site, a restaurant (Farm to Barn) with a graded parking lot at the signalized intersection of Kamehameha Highway and the Cane Haul Road, that would be maintained with any mobility hub development occurring outside of this area. This provides a benefit in that no existing infrastructure needs to be relocated to configure a mobility hub and a drawback in that more site prep work is required to develop the site. Unlike the other sites, this site does not have potential access to the Bypass road, meaning all transit access will continue to be along Kamehameha Highway. This could be considered a drawback of the site from a transit access perspective, however, the sites proximity to Hale'iwa Town and proposed future pedestrian improvements are all site benefits. The site is located within the CGB and in Hale'iwa Town which would meet the goals of the NSSCP to



maintain development within Hale'iwa and reduce sprawl. The community may have concerns about development of agricultural lands for other purposes, however, a case could be made for the community benefit of a resilience hub while still maintaining the majority of the site in Agriculture.

From a cost perspective, this site is undeveloped with flat terrain, making it moderately high cost to redevelop (\$\$\$). The development of new driveways to access the proposed mobility but would also be moderately expensive (\$\$\$). This site scores a 6/10 for costs.

6) Dole Foods – Weed Circle

The Dole Foods - Weed Circle Site is a 7.8-acre site on the northeast corner of Weed Circle at the intersection of Kamehameha Highway and the Bypass Road. The site is within the half-mile walkshed. The site is owned by Dole Foods. Five transit routes run along Kamehameha Highway at Weed Circle (Routes 52, 60, 76, 83, and 88A). There is no pedestrian or bicycle infrastructure adjacent to the site. The CCH owned portion of Kamehameha Highway closer to Hale'iwa has proposed protected pedestrian shoulder walkways that start a quarter mile from the site and the entirety of Kamehameha Highway including Weed Circle is proposed as a bicycle route in the O'ahu Bike Plan. To the west of the site is the beginning of the Waialua Beach Road separated bicycle path. This site has an available electrical circuit capacity of greater than 1 MW. The site is not impacted by the 3.2ft SLR-XA or 6ft of SLR and is located in flood zone X (area of minimal flood hazard). The site is located within the HSD and the CBG and is outside of the SMA. The site is located in AG-1 Restricted Agriculture zoning.

The site is not paved or graded and would therefore need to be developed. This provides a benefit in that no existing infrastructure needs to be relocated to configure a mobility hub, and a drawback in that more site prep work is required to develop the site. The site location at the intersection of Kamehameha Highway, Waialua Beach Road, and the Bypass Road provides excellent vehicular connections that would enable the development of a mobility hub to support travel both along the North Shore and connections to Central O'ahu and the South Shore. The position of the site Driveways would have to be developed on the site in coordination with HDOT to enable access as part of the development of the Mobility Hub. The site is also located close to the Waialua Beach Road bike path, providing good pedestrian and bicycle connections to residents in Waialua. There are proposed pedestrian improvements for the CCH owned portion of Kamehameha Highway, although that would result in a quarter mile pedestrian connection gap between the mobility hub site and the proposed pedestrian improvements. Additionally, the position of the site relatively far from the main commercial hub of Hale'iwa Town means that this site may need to be paired with a Hale'iwa circulator bus route, or have bus routes that serve Hale'iwa Town prior to terminating at this site. The site is located within the CGB and in close proximity to Hale'iwa town which would meet the goals of the NSSCP to maintain development within Hale'iwa Town and reduce sprawl. The site is located in AG-1 zoning and the community may have concerns about development of agricultural lands for other purposes.

From a cost perspective, this site is undeveloped with undulating terrain, making it a high cost to redevelop (\$\$\$\$\$). Development of new access points would be moderately high cost. This site scores an 8/10 for costs.

Scoring Matrix

A scoring matrix was developed to score each site based on the criteria above. Each site was given a score of 0 (doesn't meet the criteria), 0.5 (partially meets the criteria), and 1 (meets the criteria). The totals for each site were then added together in order to provide a top three sites to take forward to the next phase of the project. Table 1 demonstrates the results of the scoring criteria with the top three sites identified in yellow. These results have been transposed onto the map on Figure 2.

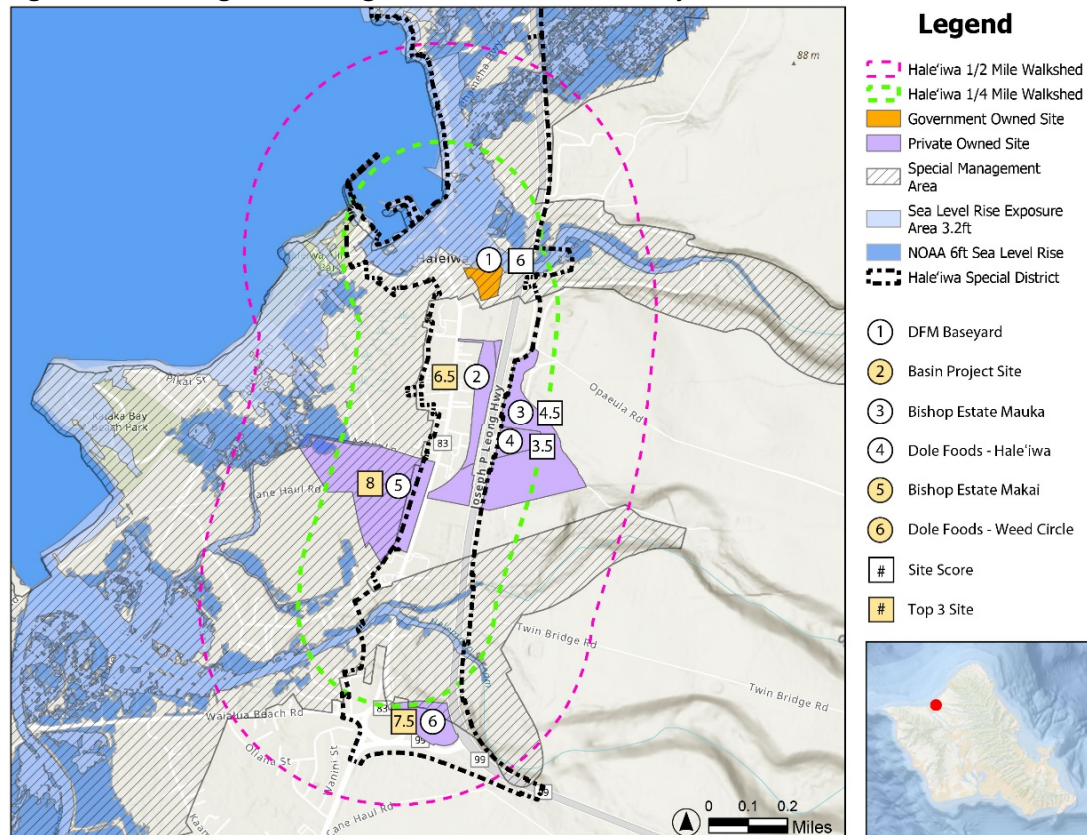
Table 1: Hale'iwa Sites Evaluation Matrix

O'AHU MPO MOBILITY HUB STUDY		Site Size	Proximity to Destinations	Parcel Ownership	Vehicular Site Access	Transit Access	Pedestrian Access	Bicycle Access	Supporting Infrastructure	Hazard and Climate Change Risks	Land Use Restrictions	Cost Related Considerations	TOTAL
Hale'iwa Site													
1	DFM Baseyard	●	●	●	●	●	●	○	○	●	●	●	6
2	Basin Project Site	●	●	●	●	●	●	○	○	●	●	○	6.5
3	Bishop Estate - Mauka	●	●	●	●	○	○	○	○	●	○	●	4.5
4	Dole Foods - Hale'iwa	●	●	●	●	○	○	○	○	●	○	●	3.5
5	Bishop Estate - Makai	●	●	●	●	●	●	○	○	●	●	●	8
6	Dole Foods - Weed Circle	●	●	●	●	●	○	●	●	●	●	○	7.5

Key

●	●	○
1	0.5	0

Figure 2: Resulting site scoring for the Hale'iwa Mobility Hub



Recommendations

Based on the criteria and scoring matrix described above, the following sites are recommended for more in depth analysis as potential mobility hub sites for Hale'iwa:

- 1) Bishop Estate - Makai
- 2) Dole Foods – Weed Circle
- 3) Basin Project Site

Each of these sites shown in Figure 3 are thought to have the anticipated space needed to configure a mobility hub, is in close proximity to destinations in Hale'iwa, has good existing vehicular access and the potential to develop excellent transit, pedestrian, and bicycle access. The sites are not located in hazard zones and are not impacted by land use restrictions.

Figure 3: Recommended sites for the Hale'iwa Mobility Hub study

